IN THE CLAIMS:

Claims 1-51 (Canceled).

52. (Currently Amended) A welder for MIG welding comprising:

a manual wire speed selector to generate a control signal;

a welding wire motor that controls a wire feed speed of a wire ~~based on said control signal~~, said speed of said welding wire motor solely a function of said control signal;

a welding power source; and

a power supply controller that generates a power control signal that at least partially controls a welding parameter of said welding power source, said output of said ~~welding power source~~ power supply controller during operation of said power supply ~~dependent~~ solely ~~on said control signal,~~ a function of said control signal, said power control signal being a linear or non-linear function of said control signal, said welding parameter including a parameter selected from the group consisting of arc voltage, arc current, or combinations thereof.

53. (Previously Presented) The welder as defined in claim 52, including a motor controller that controls a speed of said welding wire motor, said motor controller including a microprocessor, a circuit containing an amplifier, and combinations thereof.

54. (Previously Presented) The welder as defined in claim 52, wherein said wire is a solid metal wire.

55. (Previously Presented) The welder as defined in claim 52, wherein the welding power

source is an SCR based, phase controlled power source.

56. (Previously Presented) The welder as defined in claim 52, wherein a power supply controller includes a microprocessor that includes a function generator which generates said power control signal dependent solely on said control signal.

57. (Previously Presented) The welder as defined in claim 52, wherein said power control signal is a linear function of said control signal.

58. (Previously Presented) The welder as defined in claim 56, wherein said power control signal is a linear function of said control signal.

59. (Previously Presented) The welder as defined in claim 52, wherein said manual wire speed selector being the only manual control to adjustably control said wire feed speed of said wire and said output of said welding power source.

60. (Previously Presented) The welder as defined in claim 58, wherein said manual wire speed selector being the only manual control to adjustably control said wire feed speed of said wire and said output of said welding power source.

61. (Previously Presented) The welder as defined in claim 56, wherein said manual wire speed selector being the only manual control to adjustably control said wire feed speed of said wire and said output of said welding power source.

62. (Previously Presented) The welder as defined in claim 57, wherein said manual wire speed selector being the only manual control to adjustably control said wire feed speed of said wire and said output of said welding power source.

63. (Previously Presented) The welder as defined in claim 53, wherein said manual wire speed selector being the only manual control to adjustably control said wire feed speed of said wire and said output of said welding power source.

64. (Currently Amended) A method to control a power supply and a wire feed speed for a MIG welder based on a manually selected wire feed speed comprising:

providing a manual wire speed selector that generates a control signal;

providing a welding wire feeder that feeds said wire at a feed rate ~~dependent on said control signal~~, said speed of said welding wire motor solely a function of said control signal;

providing a welding power source that generates electric energy to a work piece; and

generating a power control signal to at least partially control a welding parameter generated by said welding power supply, said output of said ~~welding power source~~ power supply controller during operation of said power supply ~~dependent~~ solely ~~on said control signal,~~ a function of said control signal, said power control signal being a linear or non-linear function of said control signal, said welding parameter including a parameter selected from the group consisting of arc voltage, arc current, or combinations thereof.

65. (Previously Presented) The method as defined in claim 64, wherein said wire is a solid metal wire.

66. (Previously Presented) The method as defined in claim 64, wherein the welding power supply is an SCR based, phase controlled power supply.

67. (Previously Presented) The method as defined in claim 64, wherein said power control signal is at least partially generated by a microprocessor that includes a function generator that generates a signal based solely on said control signal.

68. (Previously Presented) The method as defined in claim 64, wherein said power control signal is a linear function of said control signal.

69. (Previously Presented) The method as defined in claim 67, wherein said power control signal is a linear function of said control signal.

70. (Previously Presented) The method as defined in claim 64, wherein said manual wire speed selector is the only manual control to adjustably control said wire feed speed of said wire and said output of said welding power supply.

71. (Previously Presented) The method as defined in claim 69, wherein said manual wire speed selector is the only manual control to adjustably control said wire feed speed of said wire and said output of said welding power supply.

72. (Previously Presented) The method as defined in claim 67, wherein said manual wire speed selector is the only manual control to adjustably control said wire feed speed of said wire and

said output of said welding power supply.

73. (Previously Presented) The method as defined in claim 68, wherein said manual wire speed selector is the only manual control to adjustably control said wire feed speed of said wire and said output of said welding power supply.

74. (Currently Amended) A welder for MIG welding comprising:

a manual wire speed selector to generate a first control signal;

a secondary manual selector to generate a second control signal, said secondary manual selected from the group consisting of a manual selector to selected type of shielding gas, a manual selector to select a type of consumable electrode, a manual selector to select a size of a consumable electrode, or combinations thereof;

a welding wire motor that controls a wire feed speed of a welding wire ~~dependent on said first control signal~~, said speed of said welding wire motor solely a function of said first control signal;

a welding power source; and

a power supply controller that generates a power control signal that at least partially controls a welding parameter of said welding power source, said output of said power supply controller during operation of said power supply solely a function of said first and second control signals, said power control signal being a linear or non-linear function of said first and second control signals, said welding parameter including a parameter selected from the group consisting of arc voltage, arc current, or combinations thereof.

75. (Previously Presented) The welder as defined in claim 74, including a motor controller that controls a speed of said welding wire motor, said motor controller including a microprocessor, a circuit containing an amplifier, and combinations thereof.

76. (Previously Presented) The welder as defined in claim 74, wherein said wire is a solid metal wire.

77. (Previously Presented) The welder as defined in claim 74, wherein the welding power source is a SCR based, phase controlled power source.

78. (Previously Presented) The welder as defined in claim 74, wherein a power supply controller includes a microprocessor that includes a function generator which generates said power control signal dependent solely on said first and second control signals.

79. (Previously Presented) The welder as defined in claim 74, wherein said power control signal is a linear function of said first and second control signals.

80. (Previously Presented) The welder as defined in claim 75, wherein said power control signal is a linear function of said first and second control signals.

81. (Previously Presented) The welder as defined in claim 74, wherein said manual wire speed selector and said secondary manual selector are the only manual controls to adjustably control said wire feed speed of said wire and said output of said welding power source.

82. (Previously Presented) The welder as defined in claim 75, wherein said manual wire speed selector and said secondary manual selector are the only manual controls to adjustably control said wire feed speed of said wire and said output of said welding power source.

83. (Previously Presented) The welder as defined in claim 78, wherein said manual wire speed selector and said secondary manual selector are the only manual controls to adjustably control said wire feed speed of said wire and said output of said welding power source.

84. (Previously Presented) The welder as defined in claim 79, wherein said manual wire speed selector and said secondary manual selector are the only manual controls to adjustably control said wire feed speed of said wire and said output of said welding power source.

85. (Previously Presented) The welder as defined in claim 80, wherein said manual wire speed selector and said secondary manual selector are the only manual controls to adjustably control said wire feed speed of said wire and said output of said welding power source.

86. (Previously Presented) The welder as defined in claim 74, wherein said linear function includes a constant value plus a value proportional to said first control signal, said constant value dependent on said second control signal.

87. (Previously Presented) The welder as defined in claim 81, wherein said linear function includes a constant value plus a value proportional to said first control signal, said constant value dependent on said second control signal.

88. (Previously Presented) The welder as defined in claim 82, wherein said linear function includes a constant value plus a value proportional to said first control signal, said constant value dependent on said second control signal.

89. (Previously Presented) The welder as defined in claim 83, wherein said linear function includes a constant value plus a value proportional to said first control signal, said constant value dependent on said second control signal.

90. (Previously Presented) The welder as defined in claim 84, wherein said linear function includes a constant value plus a value proportional to said first control signal, said constant value dependent on said second control signal.

91. (Previously Presented) The welder as defined in claim 85, wherein said linear function includes a constant value plus a value proportional to said first control signal, said constant value dependent on said second control signal.

92. (Previously Presented) A method to control a power supply and a wire feed speed for a MIG welder comprising:

providing a manual wire speed selector that generates a first control signal;

providing a welding wire feeder that feeds said wire at a feed rate ~~dependent on said first control signal~~, said speed of said welding wire motor solely a function of said first control signal;

providing a secondary manual selector to generate a second control signal based on

a selected type of shielding gas, consumable electrode, consumable electrode size, or combinations thereof;

providing a welding power source that generates electric energy to a work piece; and

generating a power control signal to at least partially control a welding parameter generated by said welding power supply, said output of said power supply controller during operation of said power supply solely a function of said first and second control signals, said power control signal being a linear or non-linear function of said first and second control signals, said welding parameter including a parameter selected from the group consisting of arc voltage, arc current, or combinations thereof.

93. (Previously Presented) The method as defined in claim 92, wherein said wire is a solid metal wire.

94. (Previously Presented) The method as defined in claim 92, wherein the welding power supply is an SCR based, phase controlled power supply.

95. (Previously Presented) The method as defined in claim 92, wherein a power control signal is at least partially generated by a microprocessor that includes a function generator that generates a signal dependent solely on said first and second control signals.

96. (Previously Presented) The method as defined in claim 92, wherein said power control signal is a linear function of said first and second control signals.

97. (Previously Presented) The method as defined in claim 95, wherein said power control signal is a linear function of said first and second control signals.

98. (Previously Presented) The method as defined in claim 92, wherein said manual wire speed selector and said secondary manual selector are the only manual controls to adjustably control said wire feed speed of said wire and said output of said welding power supply.

99. (Previously Presented) The method as defined in claim 95, wherein said manual wire speed selector and said secondary manual selector are the only manual controls to adjustably control said wire feed speed of said wire and said output of said welding power supply.

100. (Previously Presented) The method as defined in claim 96, wherein said manual wire speed selector and said secondary manual selector are the only manual controls to adjustably control said wire feed speed of said wire and said output of said welding power supply.

101. (Previously Presented) The method as defined in claim 97, wherein said manual wire speed selector and said secondary manual selector are the only manual controls to adjustably control said wire feed speed of said wire and said output of said welding power supply.

102. (Previously Presented) The method as defined in claim 92, wherein said linear function includes a constant valve plus a value proportional to said first control signal, said constant value dependent on said second control signal.

103. (Previously Presented) The method as defined in claim 95, wherein said linear function includes a constant valve plus a value proportional to said first control signal, said constant value dependent on said second control signal.

104. (Previously Presented) The method as defined in claim 96, wherein said linear function includes a constant valve plus a value proportional to said first control signal, said constant value dependent on said second control signal.

105. (Previously Presented) The method as defined in claim 97, wherein said linear function includes a constant valve plus a value proportional to said first control signal, said constant value dependent on said second control signal.

106. (Previously Presented) The method as defined in claim 98, wherein said linear function includes a constant valve plus a value proportional to said first control signal, said constant value dependent on said second control signal.

107. (Previously Presented) The method as defined in claim 99, wherein said linear function includes a constant valve plus a value proportional to said first control signal, said constant value dependent on said second control signal.

108. (Previously Presented) The method as defined in claim 100, wherein said linear function includes a constant valve plus a value proportional to said first control signal, said constant value dependent on said second control signal.

109. (Previously Presented) The method as defined in claim 101, wherein said linear function includes a constant valve plus a value proportional to said first control signal, said constant value dependent on said second control signal.